However, we are passing out of the struggle, and "truth, *which is great*, will prevail."

Concerning the slowness of progress in invention the Professor remarked that—

"The arch and the dome essayed during 1,000 years before they assumed the form of the Pantheon or the Bridge of Narni; and 1,400 more are required to accomplish a humble imitation in the dome at Florence. That the Egyptian, Greek, and Roman, as if spell-bound, did as their fathers did—that the monuments themselves are but the copies, more or less altered, the successors of a remote ancestry receding into the night of Time. Pliny tells us that the Temple of Ephesus had been seven times rebuilt."

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"But the technical reflections on this table are not less instructive. The struggle of 2,600 years with the monolithe;—the influence of fashions in the design, and of slavery in the execution, of works, reducing the cost by at least one quarter;—the lever, the levis, the trochlea, and every engine employed by modern masons, are recognised in all the oldest buildings of the East; Stonehenge being one of the few buildings which display the infancy of art;—the inferiority of ancient cities in the distant view as a conglomerate of low buildings, to those of the modern world, with towers and campaniles;—the changes which customs induce;—the church-bell, which in the seventh century hardly exceeded 1 cwt., and terrified Clothaire and his troops under the walls of Orleans; then the delight and boast of communities, and gradually becoming 80 tons in the nineteenth century at Moscow; enlarging during those centuries the towers and structures for its reception, and altering by degrees the whole face of architecture;—the use of glass, in narrow windows in the first century, a vast improvement on Phengytes, used till then; the manufacture of the civilized only, till the twelfth century; then infusing colours with unseen lustre,—glazing in part only the domestic windows, which had shutters below until the seventeenth, and now in one sheet filling the entire sash. Meanwhile, architecture bends to this manufacture, and changes its features and proportions with the phases of its improvement. And, lastly, cast-iron, which within forty years has discovered capacities which will alter the whole structure of buildings. We may say with the poet—

> 'Loin d'ici ce discours vulgaire
> Que l'art pour jamais dégénère,
> Que tout s'éclipse, tout finit;
> La nature est inépuisable,
> Et le génie infatigable,
> Et le Dieu que la rajeunit.,

"The principle to be inculcated seems then to be the acceptance and employment of every useful element of our art, and so to engraft new features, and bend it to the march of human improvement, as to be consistent with taste, while it is also to the great end of use. Thus we shall obtain new creations in the art—which a servile imitation refuses."

Nothing more correct, nothing more apt, could be have uttered than this last sentence. It ought to be put up in large, plain, obtrusive type, in every architect's office and studio, and is worth a whole volume of rules, and even of examples, for of these latter it is, and ought to be, the preface and the antecedent.

As the former lecture referred to sacred architecture, and tended to shew how the ritual prescribed the form, so in this lecture on Civil Architecture political and civil institutions would be found to have exercised their influence. The absolute monarchical rule gave the mausoleum, vast and enduring, and "where supported by castes, the labyrinth, the temple, palace, and the treasury." A republican form of government rejected those, but had "the temple, the gymnasium, the theatre, the stoa, the basilica, and public works abound," while purely commercial states, such as Tyre and Carthage, leave no remains of architecture.

Of the most ancient monuments of building art, he would cite the pillar which Jacob raised in memorial of Rachel, 1732 B.C., and that most interesting of all to architects, "the tomb of Absalom, in the valley of Jehoshaphat, which is monolithic (for the most part), or rather cut in the living rock, and exhibits an Ionic temple *in antis* (like Solomon's temple), with a Doric entablature, an Egyptian cornice, and a Tholus or circular attic, surmounted with a conical top, and a pomegranate."

"A beautiful representation of this remarkable tomb had appeared in Roberts's 'Holy Land;' there could be no doubt as to its identity, since tradition amongst the Jews on such a point might always be accepted as full and sufficient evidence. Its perfect correspondence with holy writ (2 Sam. ch. xviii.) is striking:—'Now Absalom in his lifetime had taken and reared up for himself a pillar, which is in the king's dale: for he said, I have no son to keep my name in remembrance, and he called the pillar after his own name, and it is called unto this day Absalom's place.' Wren calls it 'the most observable monument of the Tyrian style.' 'It were to be wished,' says he, 'some skilful artist would give us the exact dimensions to inches, by which we might have a true idea of the ancient Tyrian manner.'

"Labyrinths are amongst the earliest and most astonishing of architectural works; they were found in Egypt, Crete, Lemnos, and Tuscany. Herodotus describes them as surpassing in extent and magnificence: the one he describes (Ent. calvm.) was composed of twelve courts, having apartments of two kinds, fifteen hundred above the surface of the ground and as many beneath, in which were the tombs of their kings. 'No one could enter there,' says Diodorus Siculus, 'without a guide.' Yet Pliny tells us they were not contrived like the ornament commonly called by that name; in that of Lemnos, says he, were 150 columns turned in a lathe, which a child could move; and this is remarkable as evidence of the use of such a machine in the capitals of the Parthenon, which has been always supposed."

We have already said so much in reference to Egyptian architecture in our notice of Mr. Bardwell's work, and in the extracts from it, that it will only be, as it were, taking the reader over the same ground to repeat all that Mr. Cockerell says on the same subject. We cannot, however, forbear quoting the observations on magnitude, which the Professor gives in his usual appropriate manner. Comparing these ancient structures to some familiar site or extent at our own elbows, of the ruins of Karnac, he says, they covered ten acres: the walls enclosed a space equal to the length of St. James's-street, and four times its width; the first court equals in size Waterloo-place, from the Column to Pall-mall. The columnar grove beyond—that is the waiting hall—so crowded with columns as to deserve the appellation of a grove of columns, was 325 feet by 276. These vast structures of Karnac the Professor was inclined to believe were not merely temples, but temple palaces, the residence of the Pharaohs, of their court, the halls of council and of judgment; in short, that the temporal and spiritual administration of the country were unitedly carried on here.

The theatres, as having had a material influence on architecture, were entitled to be regarded with considerable attention; being constantly required for parliamentary assemblies, they had a permanent scene as well as a moveable one, which was a subject of vast architectural study and expense.

"Pliny (lib. xxxvi.) tells us that Caius Antonius silvered the scene; Petronius gilt it; Quintus Catulus clothed it in ivory. Scaurus surpassed them all; he raised 360 columns, in three ranges: the first was of marble, 38 feet high, the next was in glass, the third of wood gilt. 3,000 bronze statues ornamented the intercolumniations. Curion, unable to surpass Scaurus, built two theatres of wood, which, being back to back, could be turned so as to form an amphitheatre for gladiators, displaying the skill of the Roman carpenters to great advantage.

"Vitruvius (lib. vii. c. 5), lamenting the depravation of taste, tells us that Aparturus of Alabanda offered a design for a scene of two stories, the upper called Episcenium, filled with every caprice; Centaurs did the office of columns, pediments were twisted in a variety of shapes; all which pleased the people of Tralles, for whom it was designed; but Licinius, a mathematician, exposed its absurdity, and it was accordingly reformed on better principles.

"The scene of Laodicea (amongst many which the Professor exhibited) was the most extensive, being no less than 254 feet in length. The Theatre of Orange, lately published by M. Caristie, was a valuable addition to our information on the Roman scene.

"Palladio's scene of the theatre at Vicenza gives the best idea of this feature of ancient architectural magnificence.

"Originally of wood, and continuing so for many centuries, it was not until the third century before our era (B.C., the theatre at Epidaurus) that they were built in stone and marble. The Greek theatre approached the amphitheatre, and was a horse-shoe, comprising 200° or more, because the orchestra was reserved also for the performance; but the Roman theatre did not exceed 180°, because the orchestra was occupied by the senators.

"The Odeum was a covered theatre, chiefly for music; that of Herodes Atticus, at Athens, was the most magnificent in Greece, and had a roof of cedar. The space covered was 240 feet by 120. The construction of such a roof, without obstructing sight or hearing, or injuring external architecture, offers a problem to the architect of no easy solution, and is one of great interest in the present times as we are frequently called upon to cover large areas for occasional assemblies.

"But as modern theatres were more to the point with students, the Professor called their attention to a magnificent work, lately published, on 'The Great Modern Theatres of Europe,' by M. Constant, which he exhibited."

The subject of amphitheatres, gymnasia, therms, or baths, led to the conclusions of the lecture. The area of the Amphitheatre of Vespasian was greater than that of Trafalgar-square and Charing-cross included; the velarium with which this colosseum was covered was 550 feet by 440, a surprising contrivance, and had been made the subject of a work by the architect Fontana.

The gymnasium, in which the youth of Greece were instructed for the defence and honour of their country, was the more interesting, as being the type of those therms, the Roman baths, of which seven were erected during the first three centuries of our era. The baths of Caracalla were so extensive as to cover an area of twenty-eight acres; those of Diocletian, still larger, afforded hot baths for 18,000 persons at the same time. "These therms were in fact vast clubs, castles of indolence, in which every easy exercise of body or mind and every delight of the senses might be indulged."

"The gardens, raised about thirty feet above the general level, were adorned with every fragrant shrub and flower; the choicest works of sculpture, obelisks, and fountains, exedræ for the enjoyment of the shade or the sun (of a structure well worthy of the student's attention) terminated the walks. In the central building was the great hall, the type of Gothic structure in ecclesiastical architecture, namely, the groined ceiling reposing on a colonnade, and abutting on an extended pier, with the external flying buttress: the space of the naves (varying from 76 to 90 feet) being twice that of York, the widest of our cathedrals. The area covered offers the largest space with the smallest obstruction in the support, of any scheme yet devised, and cannot be too much admired. It has been well observed of these structures, that we discern in them the type of all that has been since done in architecture, just as throughout the animal creation we trace the more or less resemblance to the type of man.

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"The basilica is also of Greek origin, as the name imports. That kingly hall was such as Solomon built in the palace of the forest of Lebanon. It was the Westminster Hall of ancient governments, for administration of justice, commercial exchange, great public meetings, &c. The building at Pæstum, so called, was more probably a temple, because the Greeks were not accustomed to apply sacred architecture to civil purposes.

"The Basilica of Trajan was the most magnificent example of this species of building which the Professor could point out: with its forum, temples, and approaches, it covered twelve acres. The central hall or basilica, 340 feet by 168 feet, would contain St. Paul's in length and in width, exceeded only in the extreme ends of the cross. The central nave, 278 feet by 78, would contain the whole of Westminster Hall, in plan as well as in section. In Rome were eighteen basilicas, and one at least in every city of the empire. Their subsequent adaptation to the Christian temple makes them highly interesting to the student. Vitruvius, lib. v. c. 1, describes the basilica, and his own work at Fanum, which differs from the usual form in some particulars."

SECOND LECTURE ON CHURCH ARCHITECTURE.

By the Rev. Mr. Drake.

We are above all things pleased to be enabled to give reports of lectures bearing, as those of the Rev. W. Drake do, upon the revival of beautiful, painstaking, labour and soul-absorbing architecture. Our hopes and prayers and exertions are to bring about the period when the ingenuous hand may travel over the construction and decoration of England's every fabric, from the cottage to the church, and instead of a barbaric nakedness and plainness being presented at every turn, instead of its being required to rack the ingenuity of man to invent the cheap and the tinsel, and to dispense with labour, we shall once more see that true

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